

Claims

- [c1] 1.A grounding assembly for the outer conductor of a plurality of electrical cables, comprising:
a ground strap with a plurality of cable receiving portions formed in a first side;
each of the cable receiving portions adapted to mate with a first section of an outer diameter of the outer conductor of each of the electrical cables;
a retaining insulator adapted to mate with the first side of the ground strap;
the retaining insulator having a plurality of cable retaining portions adapted to mate with a second section of the outer diameter of the outer conductor of electrical cables in the cable receiving portions; and
a support insulator adapted to mate with a second side of the ground strap.
- [c2] 2.The assembly of claim 1, wherein the ground strap is formed from a single piece of material.
- [c3] 3.The assembly of claim 1, wherein the ground strap has a cross sectional area of at least 16 millimeter-squared.
- [c4] 4.The assembly of claim 1, wherein each cable receiving

portion has at least one lip edge protruding radially inward whereby the outer conductor is retained within the cable retaining portion upon insertion.

[c5] 5.The assembly of claim 1, wherein the support insulator and the retaining insulator encapsulate the ground strap, except for a protruding ground strap connection point.

[c6] 6.The assembly of claim 5, wherein portions of the support insulator and retaining insulator in contact with the outer conductor have a plurality of sealing fins adapted to mate with corrugations formed in the outer conductor.

[c7] 7.The assembly of claim 1, further including a base plate with an aperture;
a flange projecting from an edge of the aperture adapted to support the support insulator; and
a fastening plate adapted to support the retaining insulator;
the aperture dimensioned to allow passage of the electrical cables through the aperture to the cable receiving portions;
the fastening plate adapted to cover the aperture when the retaining insulator is seated upon the ground strap.

[c8] 8.The assembly of claim 7, further including a plurality of compression holes extending through the flange, the

support insulator, the ground strap, the retaining insulator and the fastening plate.

[c9] 9. The assembly of claim 8, wherein a protruding portion having a compression hole there through of the support insulator protrudes through each ground strap compression hole;

the retaining insulator having a corresponding depression adapted to receive the protruding portion, whereby the compression holes are insulated from the ground strap.

[c10] 10. The assembly of claim 7, wherein the retaining insulator has a shoulder portion adapted to seal against the support insulator when the support insulator is seated against the ground strap.

[c11] 11. The assembly of claim 7, wherein the retaining insulator extends to cover the extent of the fastening plate which faces the base plate.

[c12] 12. A feedthrough and common ground assembly for a plurality of electrical cables having an outer conductor, comprising:

a baseplate with an aperture;

a support insulator supported by the baseplate;

a ground strap with a plurality of cable receiving por-

tions, each cable receiving portion adapted to receive and electrically contact the outer conductor of one of the electrical cables;

the ground strap seated upon the support insulator whereby electrical cables passing through the aperture may be seated in the cable receiving portions;

a retaining insulator adapted to seat against the ground strap having a plurality of cable retaining portions corresponding to the cable receiving portions, the cable retaining portions adapted to seal against an exposed portion of the outer conductor of the electrical cables seated in the cable receiving portions; and

a fastening plate adapted to support the retaining insulator and cover the aperture when the retaining insulator is seated against the ground strap.

[c13] 13. The assembly of claim 12, wherein the support insulator is seated upon a flange formed in the baseplate at an edge of the aperture.

[c14] 14. The assembly of claim 12, wherein the cable retaining portion has at least one inwardly protruding lip edge operable to retain the electrical cable within the cable retaining portion.

[c15] 15. The assembly of claim 12, wherein the retaining insulator is adapted to cover the aperture when the retaining

insulator is seated upon the ground strap.

[c16] 16. The assembly of claim 12, wherein the support insulator and the retaining insulator electrically insulate the ground strap from the base plate.

[c17] 17. The assembly of claim 12, wherein the ground strap has a length along the longitudinal axis of the electrical cables whereby when each electrical cable is placed within a cable receiving portion, the outer conductor of the electrical cable has an electrical contact area with the ground strap according to one of IEC 1024-1 and MIL-STD-188-124A.

[c18] 18. The assembly of claim 12, wherein the ground strap has a cross sectional area of at least 16 millimeters-squared.

[c19] 19. The assembly of claim 12, wherein the ground strap is formed from a single piece of material.